**AMENDMENTS TO THE CLAIMS:**

1-7 (canceled)

8. (currently amended) A method of selecting for ~~a composition of LSC~~ human leukemia stem cells (LSC), the method comprising:

combining reagents that specifically recognize Thy-1, IL-7Rα (CD127), and a lineage panel with a blood sample from a human leukemia patient suspected of comprising LSC; and

selecting for those cells that are Thy-1$^-$, IL-7Rα (CD127)$^-$, and lineage panel$^-$ to provide a population of leukemia stem cells having self-renewal capacity, and which provide for disease progression.

9. (canceled)

10. (currently amended) A method of selecting for human leukemia stem cells (LSC), the method comprising: ~~The method according to Claim 9,~~

combining reagents that specifically recognize Thy-1, IL-7Rα (CD127), and a lineage panel with a blood sample from a human leukemia patient suspected of comprising LSC wherein said leukemia patient is a chronic myelogenous leukemia patient;

selecting for those cells that are Thy-1$^-$, IL-7Rα (CD127)$^-$, and lineage panel$^-$ to provide a population of leukemia stem cells having self-renewal capacity, and which provide for disease progression.

11 – 14. (canceled)

15. (currently amended) ~~The method of Claim 9~~ A method for characterizing a blood sample from a human leukemia patient human, the method comprising:

combining reagents that specifically recognize Thy-1, IL-7Rα (CD127), and a lineage panel with said blood sample;

selecting for those cells that are Thy-1$^-$, IL-7Rα (CD127)$^-$, and lineage panel$^-$ to provide a population of leukemia stem cells having self-renewal capacity, and which provide for disease progression; and further comprising:

combining said blood sample from a leukemia patient with specific binding members that are sufficient to distinguish the distribution of cells with hematopoietic stem and progenitor subsets;

determining the distribution of progenitor cells between said subsets,

wherein the distribution of progenitor cells is indicative of the phenotype of said leukemic condition.

16. (original) The method according to Claim 15, wherein said leukemic condition is MDS.

17. (original) The method according to Claim 15, wherein said leukemic condition is a myeloid leukemia.

18. (original) The method according to Claim 15, wherein said myeloid leukemia is CML or CMML.

19. (original) The method according to Claim 15, wherein said hematopoietic stem and progenitor subsets include one or more of HSC, CMP, MEP and GMP.

20. (original) The method according to Claim 15, wherein said specific binding members are antibodies.

21. (original) The method according to Claim 20, wherein said antibodies include specificities for CD34 and CD38.

22. (original) The method according to Claim 21, wherein said antibodies further include specificities for IL-3R and CD45RA.

23. (original) The method according to Claim 21, further comprising antibodies specific for a lineage panel.

24-35. (canceled)

36. (new) The method of Claim 10, further comprising:
combining said blood sample with a reagent that specifically recognizes IL3Ra; and
selecting for cells that are IL-3R$\alpha^+$.

37. (new) The method of Claim 10, further comprising:
combining said blood sample with a reagent that specifically recognizes CD45RA; and
selecting for cells that are CD45RA$^+$.

38. (new) The method of Claim 10, wherein the leukemia stem cells have an activated β-catenin pathway that is inhibited with axin.

39. (new) The method of Claim 10, further comprising:
combining said blood sample with a reagent that specifically recognizes CD47; and
selecting for cells that are CD47$^+$.

40. (new) The method of Claim 10, further comprising:
combining said blood sample with a reagent that specifically recognizes Flk2; and
selecting for cells that are Flk2$^+$.